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| 09/293,142 | 04/16/1999 | TAKASHI KONDOH | 990242LH | 4480 |

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12/20/2002

FRISHAUF HOLTZ GOODMAN
767 THIRD AVENUE 25TH FLOOR
NEW YORK, NY 100172023

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| EXAMINER |
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MOORTHY, ARAVIND K

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| ART UNIT | PAPER NUMBER |
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2131

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/293,142

Applicant(s)

KONDOH ET AL.

Examiner

Aravind K Moorthy

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 6 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 20 August 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10, 11, 15, 17 and 18 is/are allowed.
- 6) ☐ Claim(s) 1-9, 12-14 and 16 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 14 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☒ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Specification

2. The disclosure is objected to because of the following informalities: page 1 of the specifications is included in Japanese.

Appropriate correction is required.

3. Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 9, 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 9, 12 and 13, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Applicant recites storing the first decryption key acquired from the decryption key server through communication means or the like. The examiner asserts that it is unclear if the key is acquired through a communications server or through any other method.

Any claims not addressed are rejected on the virtue of their dependency.

5. Claim 8 recites the limitation "the alteration monitor mode" in the claim. There is insufficient antecedent basis for this limitation in the claim.

There is no previous mention of “the alteration monitor mode” in the preamble or the body of the claim. For the sake of examining, the examiner assumes that “the alteration monitor mode” refers to the “alteration detection unit”.

6. Claim Objections

7. Claims 5, 6, 14 and 16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per claim 5, prior art does not disclose a digital evidential camera that has an encryption processing unit that generates a first alteration detection data from the image data using the encryption key and generates a second alteration detection data from the image data using the data for identifying the photographer and combines the first and second alteration detection data into the alteration detection data.

As per claim 6, prior art does not disclose a digital evidential camera with a storage unit for storing the data for identifying the photographer and the encryption key and a second encryption-processing unit for generating the second alteration detection data from the data for identifying the photographer. Prior art does not disclose the second encryption-processing unit is removable from the camera.

As per claim 14, prior art does not disclose a digital evidential camera that has image data that is multiple resolution image data including a plurality of image data of different resolutions combined and stored in different sets. Prior art does not disclose that the encryption-processing unit includes a selection unit for selecting at least one image data having a desired resolution from the multiple resolution image data in order to generate the alteration detection data.

As per claim 16, prior art does not disclose a digital evidential camera that has image data that is multiple resolution image data including a plurality of image data of different resolutions combined and stored in different sets. Prior art does not disclose that each of the multiple resolution image data is stored in units of predetermined small block and the encryption-processing unit generates the alteration detection data in units of the small block.

8. Allowable Subject Matter

9. Claims 10, 11, 15, 17 and 18 are allowed.

As per claim 10, prior art does not disclose an image file updating unit for generating second alteration detection data using a second encryption key other than the first encryption key from the edited image data processed by the image editing unit and adding the second alteration detection data to the edited image data.

Any claims not addressed are allowed on the virtue of their dependency.

8. Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Friedman U.S. Patent No. 5,499,294.

As per claim 1, Friedman discloses a camera including an image pickup unit for picking up an image of an object. Friedman discloses that digital cameras sense light and color via an electronic device, such as a charge coupled device commonly known as a

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CCD, and produce as an output a computer file which describes the image using data bits arranged in a meaningful, predefined format. The CCD would be the image pickup unit, column 3 lines 60-65.

Friedman discloses an encryption processing unit for generating an alteration detection data using a built-in encryption key from the image picked up by the image pickup unit. Friedman discloses that the camera is equipped with a secure microprocessor **12b** for providing a hash of the image file or blocks of the file and encrypting the hash with a unique private key embedded in the digital camera. The microprocessor **12b** stores the camera's unique private key to serve as the encryption processing unit, column 5 lines 56-65.

Friedman discloses an alteration detection unit for decrypting the alteration detection data generated by the encryption processing unit using a decryption key corresponding to the encryption key and detecting whether the image data has been altered based on the result of the decryption. The camera has a decrypting authentication system **20** that uses a public key taken from the camera name plate or the image's border. The decryption authentication system **20** is the alteration detection unit, column 6 lines 2-10. The public key is mathematically related to the private key embedded in the secure microprocessor **12b** of the digital camera **10** to permit decrypting the digital signature with the public key in the conventional way of encryption and decryption using public and private keys, column 6 lines 18-23. A comparator **23** receives the image hash from a hash calculator **21** and the secure image hash from a decryptor **22**. If these two hashes match, it is certain to any required degree that digital image in question is indeed identical to what the digital camera system **10** originally produced, column 6 lines 41-46.

As per claim 2, Friedman discloses that the encryption-processing unit encrypts using the encryption key and the data obtained by application of a predetermined function to the image data to generate the alteration detection data. As discussed above the camera uses the private key stored in the secure microprocessor **12b** to encrypt a hash of the captured image file (produced by hashing microprocessor **12a**). The hashing function is the predetermined function that is applied to the image data.

As per claim 3, Friedman discloses that the alteration detection unit compares the data obtained by application of the predetermined function to the image data with the data obtained by decrypting the alteration detection data using the decryption key to detect whether the image data has been altered or not. As discussed above, a comparator **23** receives the image hash from a hash calculator **21** and the secure image hash from a decryptor **22**. If these two hashes match, it is certain to any required degree that the digital image in question is indeed identical to what the digital camera system **10** originally produced.

As per claims 4 and 7, Friedman discloses that the encryption processing unit generates the alteration detection data based on the encryption key, the image data, and the data for identifying a photographer. Friedman discloses that the public key (which is a unique serial number identifying the camera) can be added in a border of the digital camera image frame. Unless the camera employs a mechanism such as a user login, which is not taught by the instant application, the examiner interprets the photographer to be the owner of the camera. Thus the serial number of the camera is sufficient to identify the photographer. The alteration detection data is created by hashing all of the added information (serial number, date, time, light level, color temperature, f/stop, shutter

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speed, latitude and longitude of the camera position) and encrypting it with the image to become part of the signature, column 4 lines 55-66.

10. Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman U.S. Patent No. 5,499,294 in view of Kiyohara et al U.S. Patent No. 4,849,783 and in further view of Steinberg U.S. Patent No. 5,862,218.

Claim 8 differs claim 1 in that claim 8 recites in addition to the alteration monitor detection unit, the camera has a digital watermark mode for embedding a digital watermark in the image data and a normal mode for taking a photograph without the security function and mode for selection unit for selecting the desired one of the modes.

Friedman does not teach a digital watermark mode for embedding a digital watermark in the image data and a normal mode for taking a photograph without the security function and mode for selection unit for selecting the desired one of the modes.

Steinberg teaches a camera having a watermark mode for embedding a digital watermark in the image data. Steinberg discloses a camera that is configured to use the an indicium in combination with a conversion formula to mark an original acquired image in a non-destructive manner to form modified image data and add the indicium to an image header. The camera also creates image authentication data for comparison with

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corresponding data of a questionable second image to determine if the second image is the same as or different from the original image, see abstract.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Friedman to add a watermarking mode to a digital camera.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Friedman by the teaching of Steinberg because it provides a marked, secure images that minimizes concerns regarding unauthorized use.

The examiner asserts that it is inherent for a camera to have a mode selection unit for selecting the desired modes. If there were more than one mode on the camera then there would have to be a mode selection unit for selecting a desired mode.


12. Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K Moorthy whose telephone number is 703-305-1373. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gail O Hayes can be reached on 703-305-9711. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

December 12, 2002


GAIL HAYES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100